Pulliam Power Plant

PMP Action Plan Outline – June 26, 2013

There are four main sources of water to the wastewater treatment facility. These include water from the boilers, coal storage and handling activities, demineralizer system water and service water. The primary source of water used at the facility is water withdrawn from the Fox River/Green Bay, which is known to contain mercury. Water used in the boiler and demineralizer system is obtained from the City of Green Bay Water Utility. The current approach is to evaluate each of these main sources to determine if they contribute a significant amount of mercury to the wastewater treatment facility. If a plant process is identified to be adding mercury to the facility's wastewater treatment system at levels above the background levels of the original source water supply, then the facility will evaluate the impact of possible mercury reduction actions based on expected water quality improvements at Outfall 101. The facility will take all feasible steps to reduce the mercury in the facility's effluent. The feasibility steps will be completed by evaluating and documenting: (1) the likelihood of achieving expected results, (2) ease of implementation, (3) whether the control measures in the process will have a discernible impact (either on concentration or load) due to the treatment steps taken downstream (i.e. at the wastewater treatment facility), and (4) whether implementing a particular control is expected to itself be unattainable for one of the reasons in 40CFR 131.10(g).

Boilers	Wastewater Treatment Facility Sources	Action
Pulliam 5-8 See note 1	Boiler sluice water Boiler seal water Boiler blow down	Units 5&6 will stop combusting coal by June 2015 per a previous EPA/WDNR commitment. As a result the boiler sluice water sources will be eliminated from these units during the permit term.

Note 1: Sampling as part of the PMP will be from either Unit 7 or Unit 8 boiler. The results are assumed to be representative of all the facility boilers since they burn the same coal and all the source water supplies are the same.

Coal Handling	Wastewater Treatment Facility Sources	Action
	Coal pile runoff	Investigate using coal pile runoff water for coal pile dust control.
	Plant storm drain(s) that may contain coal pile runoff	Investigate the re-routing of drains to coal pile runoff storage basin.

Demineralizer	Wastewater Treatment Facility Sources	Action
	Sulfuric Acid rinse water	Reduce mercury in the sulfuric acid supply from 1 ppm to 0.1 ppm.
	Caustic rinse water	Reduce the mercury in the caustic supply from 0.5 ppm to 0.002 ppm.
	City of Green Bay water supply	Post demin rinse water sample will be compared to pre demin sample (raw water) mercury concentration

Service water from Fox River	Wastewater Treatment Facility Sources	Action
	Non contact cooling water supplied to plant equipment.	

The sampling frequency for these water sources will be quarterly. This is the same frequency as the mercury sampling requirements associated with Outfall 101. If the concentration or load of mercury in an individual wastewater stream (e.g., demineralizer rinse water) exceeds the concentration or load of mercury in the water that is supplied to the facility to feed the process associated with that waste stream (e.g., City of Green Bay water), then quarterly sampling of that wastewater stream will continue during the permit term unless or until:

1) An individual source(s) no longer contributes water to the wastewater treatment facility;
2) It is determined that after one year an individual source is contributing mercury at a concentration that is less than the wildlife water quality criteria (1.3 ng/l) to the wastewater treatment facility.
3) It is determined that after a minimum of two years worth of data collection a wastewater stream has contributed a consistent concentration of mercury to the wastewater treatment facility. For these waste streams a sample will be collected at least annually.
4) It is determined that after a minimum of two years worth of data collection of the discharge at Outfall 101 that the process wastewater discharged from the facility is consistently below the wildlife criterion of 1.3 ng/l. If the discharge from Outfall 101 is less than the wildlife criterion, then the waste streams contributing to the wastewater treatment facility will be sampled annually during the term of the permit.

Per the criteria outlined above, if WPSC determines that it is no longer necessary to conduct quarterly sampling of a specific waste stream and WPSC wishes to discontinue sampling or modify the sampling schedule, then WPSC will notify WDNR in writing. In the notification WPSC shall provide documentation supporting the decision to either discontinue quarterly monitoring or to modify the monitoring schedule. For criterion 3, WPSC shall include a statistical analysis of the data to support a change in monitoring schedule. Unless otherwise notified, if the Department has not notified WPSC within 60 days of the Department's receipt of the documentation, WPSC may assume that the altered monitoring schedule has been accepted.

Finally, in order to determine the effectiveness of the facility's wastewater treatment system at removing mercury, samples of wastewater will be collected quarterly from the influent to the wastewater treatment facility (prior to the lamella clarifiers) during the next five years or until the permit is renewed.